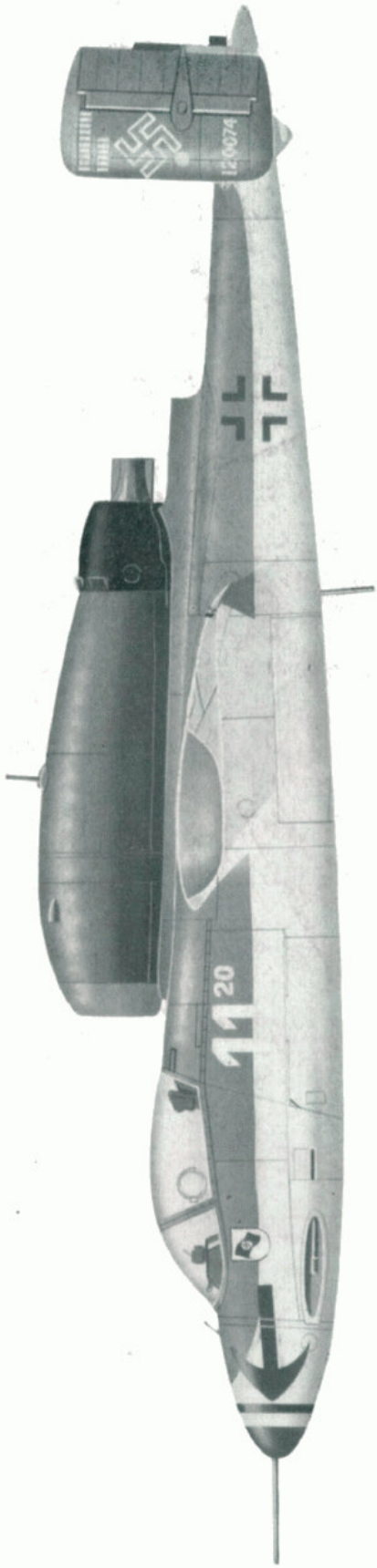
PROFILE
PUBLICATIONS

The Heinkel He 162



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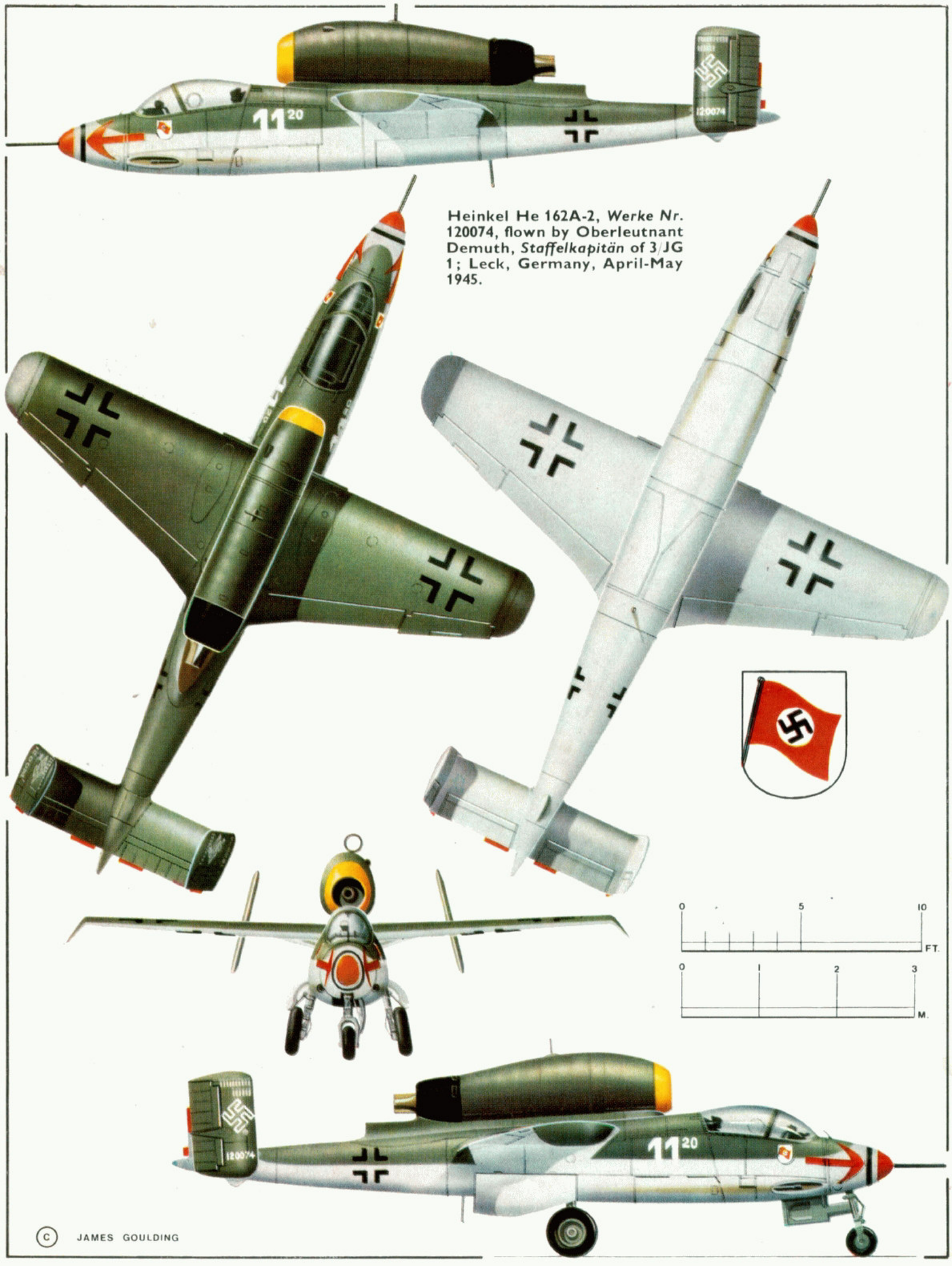

Heinkel He 162A-2, *Werke Nr.* 120074, flown by Oberleutnant Demuth, *Staffelkapitän* of 3/JG 1; Leck, Germany, April-May 1945.

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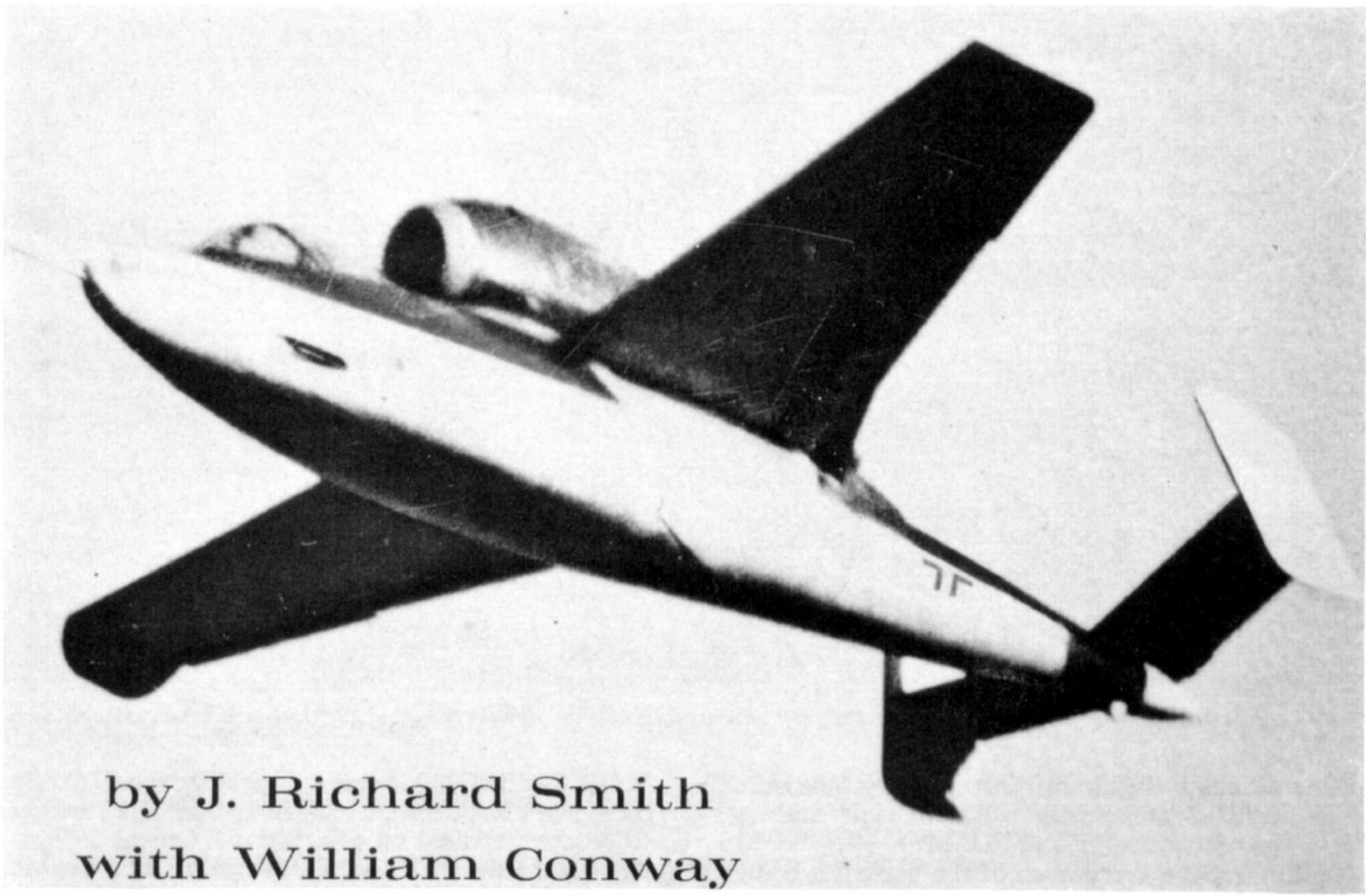


by J. Richard Smith
with William Conway

The Heinkel He 162

Only known flying view of a Heinkel He 162A, apparently of JG 1. (Photo via Witold Liss)

The fame of the Heinkel 162 single-jet fighter cannot be attributed to its operational exploits or even to its radical form of powerplant. Its main claim to fame was the phenomenally short period that elapsed from its conception to the appearance of the first prototype —just under three months.

The He 162 was born of necessity—necessity to produce an aircraft with the performance of the Me 262 twin-jet fighter, but costing less, using one engine and non-essential materials; and to be of such simple design that it could be produced quickly by semi-skilled labour. The fighter would, it was hoped, be only an interim measure pending the introduction of a much more advanced fighter powered by the new HeS 011 turbojet.

The specification for the "*Volksjäger*" or "People's Fighter", as the design was popularly known, was issued on the 8th September 1944. It called for:—

"A design to make use of existing aircraft components, only the barest essentials to be carried in the way of equipment. The power to be supplied by a B.M.W. 003 turbojet rated at 1,760 lbs. static thrust.

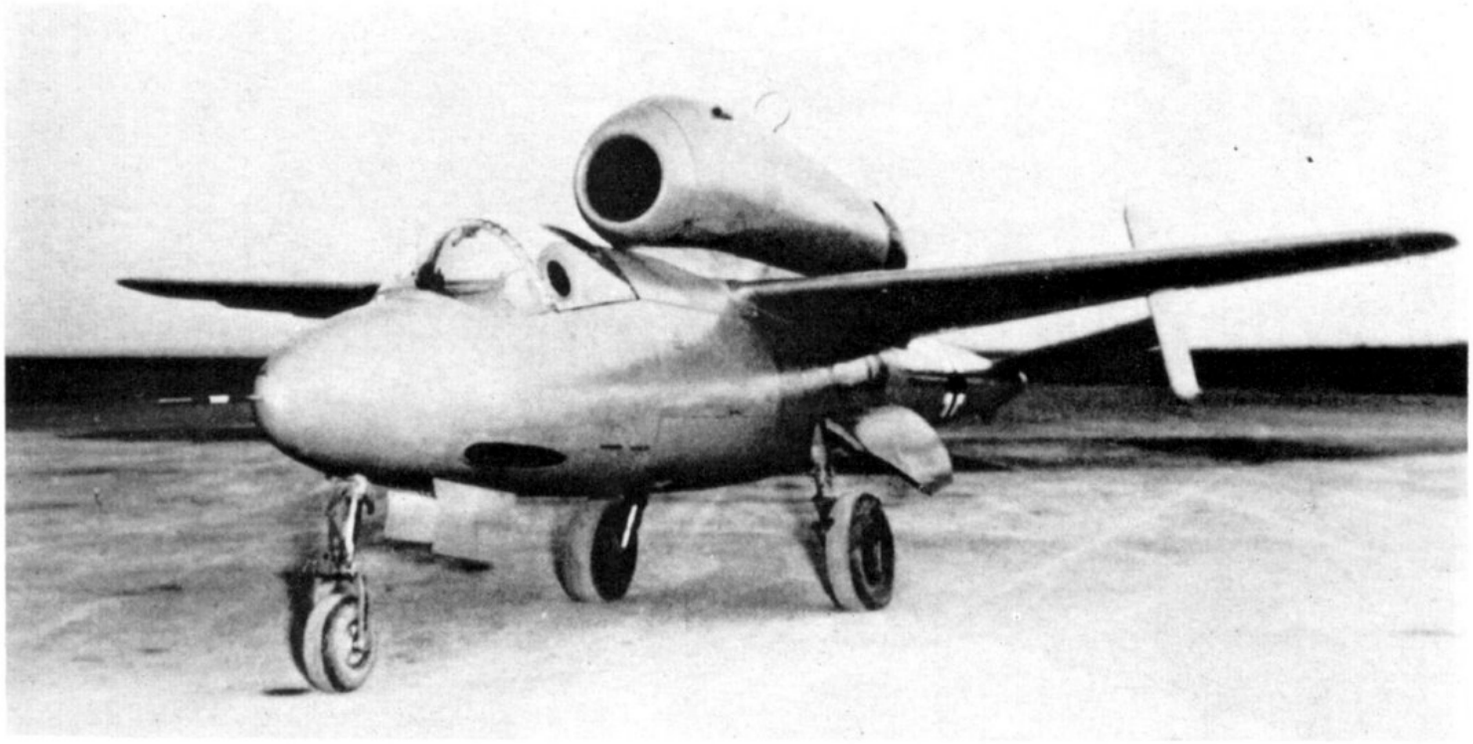
Top speed to be 750 km/hr. (466 m.p.h.).
Endurance of not less than 20 minutes at sea level.
Gross weight not more than 2,000 kg. (4,400 lbs.).
Wing loading not more than 200 kg./m^2 (40 lbs./sq. ft.).

The aircraft to be regarded as a "piece of consumer goods" and to be ready by 1st January 1945".

The production of such qualities as were called for by the specification was no easy task, but seven companies were invited to produce designs. These were Arado, Blohm und Voss, Fieseler, Focke Wulf, Heinkel, Junkers and Messerschmitt—although the latter refused point blank to participate. Of the remaining companies, only Heinkels had previous experience of jet designs, their He 178 and He 280 being respectively the world's first jet aircraft and the world's first jet fighter.

Initially the Heinkel project was designated P.1073 by its design team headed by the Chief Project Engineer, Siegfried Gunther and the Chief Designer, Schwärzler. Taking into consideration the problems of air intake and ducting encountered with their previous He 178 design, it was decided to mount the engine outside the fuselage rather than internally. As only one engine was to be used, there were only two places it could be mounted; either above or below the fuselage. Because of undercarriage difficulties and the fact that the turbojet would be the first thing to suffer damage in a belly landing, the obvious choice was to mount the power unit above the fuselage. This installation was to prove advantageous in many ways, it was easy to maintain or replace the engine and it left the wings and fuselage clean for the installation of components without cramping.

On 15th September a conference was held to finalise the choice of design, and those produced by Blohm und Voss and Heinkel were adjudged the best. The Blohm und Voss P.211 was only abandoned on 30th September after much recrimination and two further conferences. Meanwhile, on 23rd September, the final design work was completed, and a small mock-up



The prototype He 162 V-1 "Spatz"*; this ill-fated aircraft crashed following an in-flight failure of the starboard wing during its second flight.* (Photo via Witold Liss)

of the development aircraft inspected by *Generalstabs Ing*. Lucht together with other officials and technicians of the *Luftwaffe* and R.L.M.

Following the acceptance of the design, a contract was awarded for the production of 1,000 machines per month. Production of the initial prototypes was undertaken at Heinkel's Vienna/Schwechat factory and the He 162 VI had to be ready for flight testing by 1st December. A further stipulation was that mass production had to begin on 1st January 1945. Heinkels had originally intended to use the designation "He 500" for the aircraft, but this was turned down by the R.L.M. Technical Department (Department C) and the designation He 162 used. This was in fact one of the few cases in which an aircraft designation was duplicated by the R.L.M., the previous 8-162 being the Messerschmitt Bf 162 *Jaguar*, a fighter-bomber version of the Bf 110.

October 30th, 1944 was the deadline for all development work to be completed—after then all efforts were to be concentrated on production. On the 29th, one day before the deadline, all blueprints and drawings were allocated to the workshops and production initiated. The basic structure of the He 162 comprised a monocoque fuselage of light metal with a wooden nose cone—produced in a "finished state" with no further machining necessary; wings and all moving surfaces of wood; a fuel tank moulded integrally into the mainplane and specially impregnated to make it fuel-tight; and a tail unit of mixed construction of wood and metal. The aircraft had a tricycle undercarriage, the main wheels retracting by hydraulics but lowered by springs which were compressed when the wheels were originally retracted.

FIRST FLIGHTS, FIRST TRAGEDY

The maiden flight of the He 162 VI "*Spatz*"

(Below and facing page) Werke Nr. *120222, "white 23" of JG 1 is probably the most photographed He 162 of all. An A-2 model, the aircraft was shipped to the United States and tested at both Freeman Field and Wright-Patterson A.F.B. before being crated at the Smithsonian Institute in Washington.* (Photos via Witold Liss)

The subject of the five-aspect painting on p.2, this aircraft is seen on the Luftwaffe *field at Leck; it was the machine of the* Staffelkapitän *of 3/JG 1, Oberleutnant Demuth.* (Photo via Witold Liss)

(Sparrow) took place on the 6th December 1944 at Vienna/Schwechat airfield. The machine was flown by Heinkel's chief test pilot, *Flugkapitän* Peter. The initial flight was brief, lasting only twelve minutes, but the aircraft behaved just as expected except that one of the main wheel doors was torn off by slipstream—the cause being attributed to defective bonding. Four days later the official maiden flight took place before many officials from the *Luftwaffe* and Air Ministry.

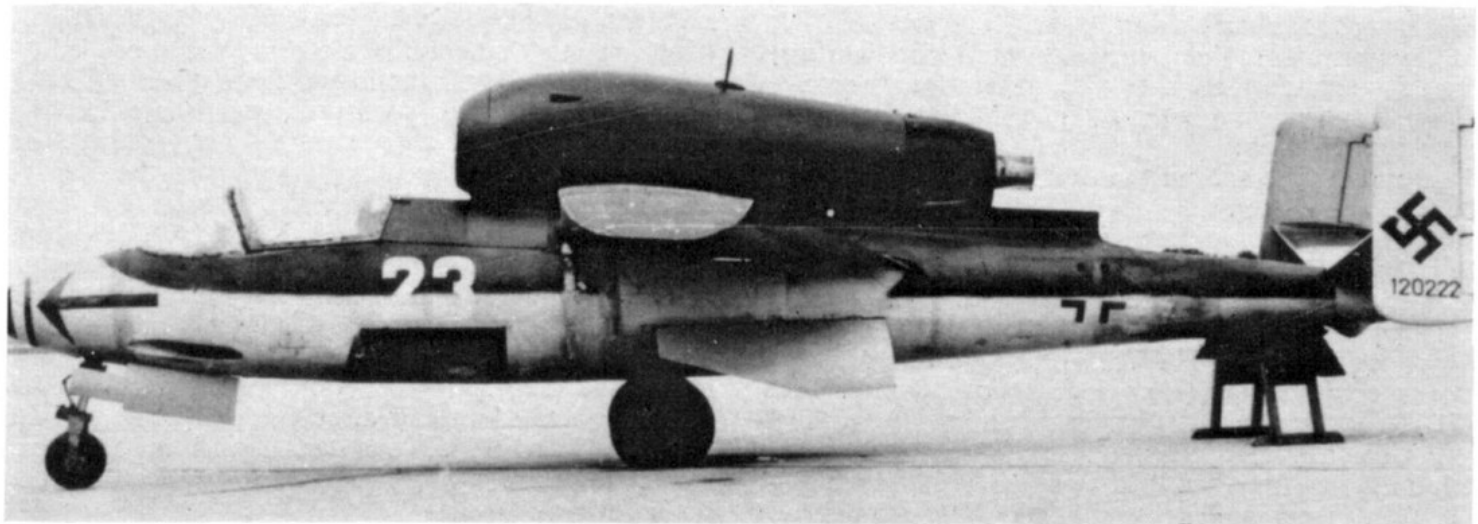
After a brief demonstration flight, Peter brought the aircraft in low across the field at very high speed. As the aircraft approached the spectators, the starboard leading edge split, the aileron and wing tip tore away and the machine completed several quick rolls before crashing on the airfield perimeter. The cause of the crash was again attributed to defective bonding of the wooden parts. After the first incident both Peter (who was killed in the crash) and Heinkel had requested that the demonstration flight be delayed whilst a thorough examination was made of the prototype, but their protests had fallen on deaf ears.

In spite of the accident work continued, and three more prototypes, the He 162 V2, V3 and V4 were flight tested together with the thirty-one He 162A-O pre-production machines in December 1944 and January and February 1945 (*see production table*).

Throughout the test programme the He 162 was compared with the aircraft it was designed to replace, the Me 262. It was during these tests that several modifications to the design were originated by R.L.M. engineers working at Rechlin. It was found that the machine lacked lateral stability, was sluggish on the controls and had a very high ratio between rolling and yawing. To increase the lateral stability and lower the R and Y ratio, two suggestions were put forward; either lengthen the fuselage or enlarge the tail fins. The latter method was chosen and resulted in a 30% increase in stability and a reduction in the R and Y ratio from 2·4 to 1·75 at 8,500 ft. This brought the machine on a par with both the Me 262 and Ar 234 which were also being tested at Rechlin during this time.

The He 162's other main vice was its tendency to tip stall. Three suggestions were put forward to cure this trouble, and in the event, all three had to be implemented. These were:—

1. The wingtips to be extended some nine inches and bent downwards at an angle of 55 degrees.
2. The wing root to be turned up to cause a stall



at the root before the tip.

3. Spoilers to be fitted to the leading edge of the wing root extending about 12 inches from the side of the fuselage.

With these modifications the flight characteristics of the He 162 were much improved and the only noticeable external differences were the downward turned wing tips and enlarged fins.

The He 162 was an unconventional aircraft for its time, and several radical features were incorporated in its design. It was the first German aircraft to be put into mass production at almost the same time as the pre-production machines were leaving the assembly lines. It was the first machine to be built of wooden parts bonded together with a special chemical bonding process; and finally, it was the first aircraft to be fitted with an ejector seat as standard.

As mass production got under way, the Heinkel company began to work around the clock on a twelve-hour shift system. Despite the ever-increasing bombing raids, production of the He 162 ran smoothly. Three final assembly works were set up; Heinkel Nord at Rostock, who were to produce 1,000 machines per month; Junkers at Berneberg who were also to produce 1,000; and the Mittlewerke G.m.b.H. (who had experience on the construction of the V-1 and V-2) who were to build 2,000 machines per month.

Much of the component manufacture was undertaken by small woodworking firms, who up to that time had been engaged in producing small aircraft parts or even furniture. The increase in Allied bombing led to these firms being moved to undergound factories, which comprised an assortment of chalk mines, salt mines and even the famous Sea Grotto near Vienna.

Junkers were responsible for the production of the master fuselage from which all tools and jigs required for mass production were made. Individual manufacturers made up their own tools from wood and zinc castings for the specific section they were about to produce. To speed production, Heinkels took over the master fuselage from Junkers and began to construct components, whilst Junkers produced three additional sets of tools and jigs for issue to each of the three major manufacturers.

With so many sub-contractors, it might be thought that problems would have been encountered with the assembly of the sub-sections, but this was not the case. Everything went suprisingly well, this being mainly due to the simplicity of design and reliability of the works drawings. The components were produced as follows:
Metal fuselage parts: Heinkel Nord at Rostock, Heinkel Sud at Hiterbruhl, Junkers at Berneberg and Mittlewerke at Nordhausen.
Mainplanes and tail units: Many small woodworking factories around the Thuringia and Stuttgart areas.
Other wooden components: The Melk St. Poelter district of Austria.
Nose cone: The specialist wood moulding factory of Behr at Wendliger.
Sub-assemblies: Junkers factories at Ascherleben, Berneberg, Dessau, Eglen, Halberstadt, Leopoldshall, Madgeburg, Nordhausen and Tarthun.

Three main sub-variants of the He 162A series were produced. The He 162A-1 and A-2 differed only in the equipment, both carrying two 20 mm. MG 151/20 cannons mounted either side of the nose-wheel well. The ammunition for these was stored in a box behind the canopy, fed to the guns by special racks—120 rounds per gun being carried. The He 162A-3 carried the heavier 30 mm. MK 103 cannon with 50 rounds. This weapon was later abandoned owing to the stress it placed on the airframe and the pilot when being fired.

Oberleutnant Demuth poses by the rudder of his aircraft; the victory tally is "carried over" from his service on previous types of fighter, as the He 162's of JG 1 never actually fired their guns in anger. (Photo: Archiv K. Ries)

THE GESCHWADER THAT NEVER WAS . . .

Much mystery surrounds the operational use of the He 162, and most of it concerns the mythical "JG 84". There was in fact no such unit, and it is difficult to understand where this strange designation first originated. The operational proving of the He 162 was entrusted to *Erprobungskommando 162* (alternatively designated *Einsatzkommando Bär*) commanded by Obstlt. Heinz Bär, holder of the Knight's Cross with Swords and Oak Leaves. *Erprobungskommando 162* was based initially at Rechlin, later joining forces with Gen. Lt. Adolf Galland's *Jagdverband 44* at München/Riem. The combined unit which was commanded by Bär after Galland was wounded on 26th April 1945, was transferred to Salzburg/Maxglam where it surrendered to American armour on 3rd May.

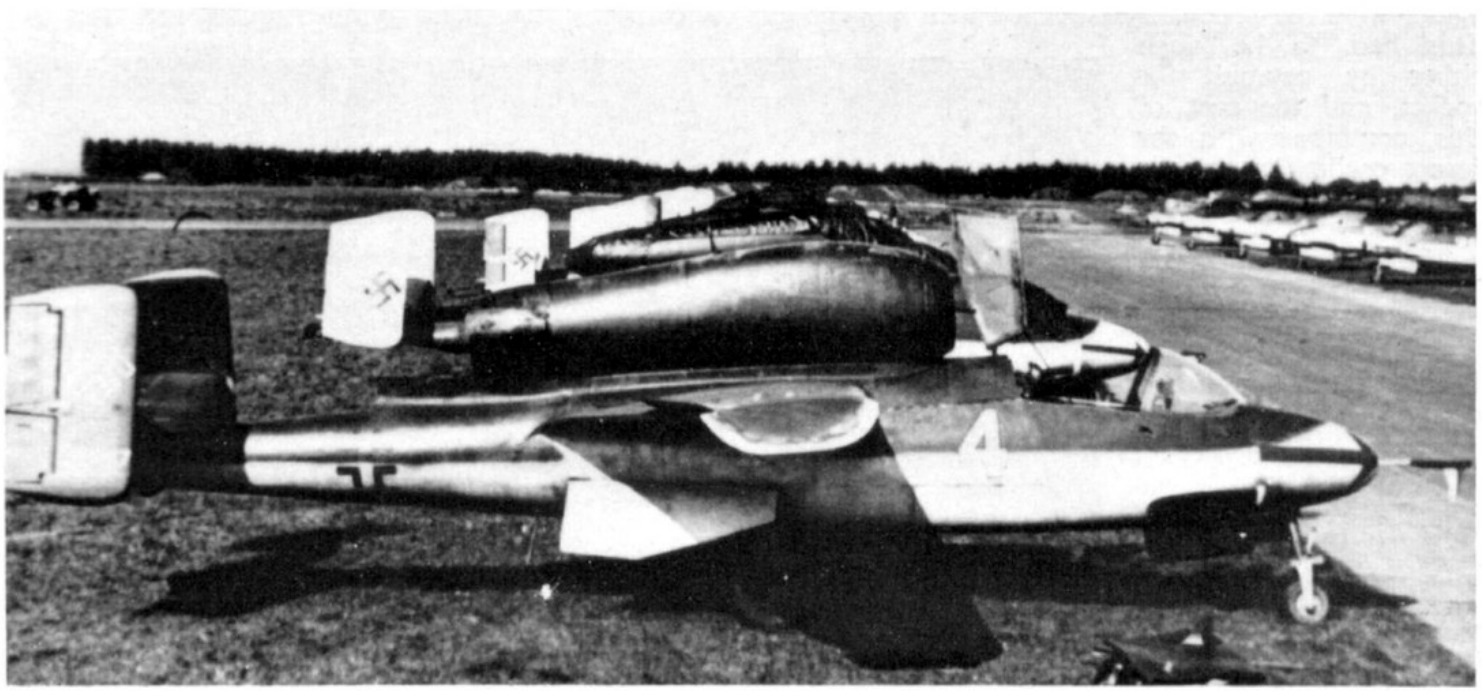
An unknown pilot poses by his Volksjäger *on Leck airfield; note the diving eagle insignia of I/JG 1 on the nose.*
(Photo: Archiv K. Ries)

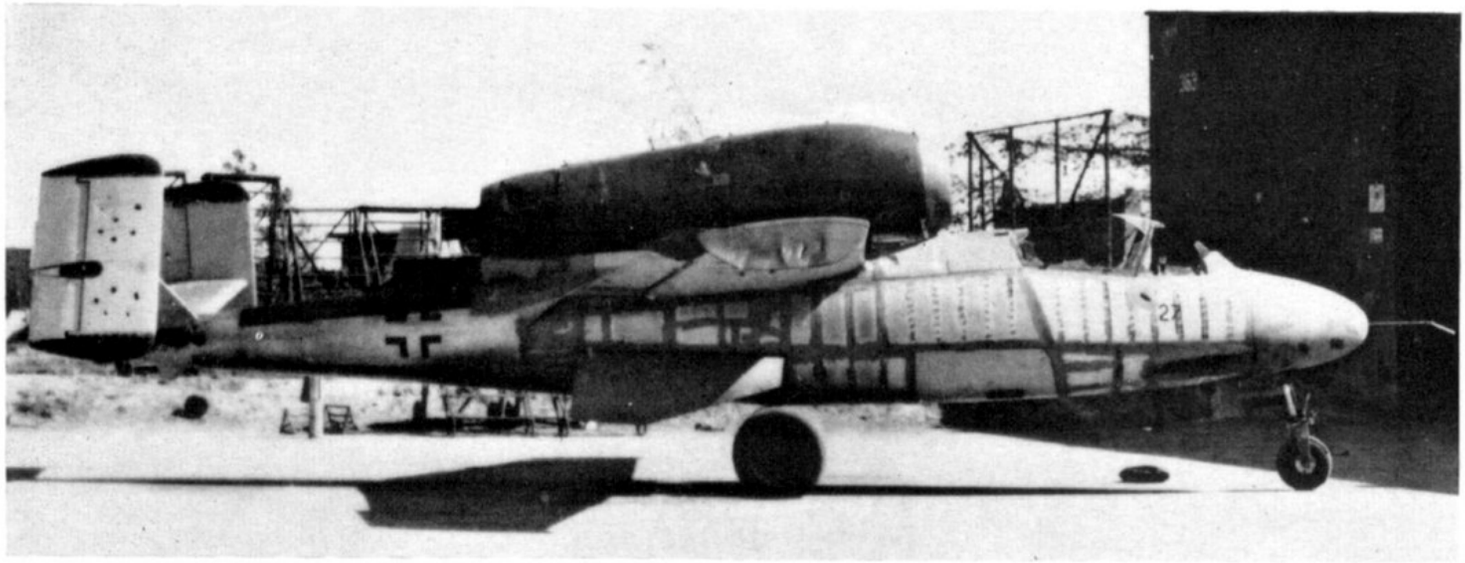
On 6th February 1945, I./JG 1 operating Fw 190's on the Eastern Front was ordered to transfer its aircraft to II./JG 1 and move to Parchim for re-equipment with the He 162. I./JG 1 under Oblt. Demuth, later joined by the *Geschwader Stab* under Obst. Herbert Ihlefeld received its aircraft and initial training at Parchim, transferring on 8th April 1945 to Ludwigslust. II./JG 1 under Hptm. Paul-Heinrich Dahne was transferred from Insterburg/Ostpreussen to Warnemünde in March, also being re-equipped with the He 162. III./JG 1 under Hptm. Moldenhauer was also withdrawn from operations for re-equipment with the He 162, but in the event no aircraft were delivered to the unit.

I./JG 1 became operational at Leck/Holstein on 14th April 1945 although it was virtually grounded due to lack of fuel and the hopelessly inadequate supply situation. It is extremely unlikely in fact that the He 162 was ever met in combat by Allied aircraft. Hptm. Dahne, *Kommanduer* of II./JG 1 was killed in an He 162 crash at Warnemünde on 24th April and was superseded by the one-legged and somewhat legendary Maj. Zober. On 3rd May, II./JG 1 was transferred to Leck/Holstein to join the *Geschwader Stab* and I./JG 1, and next day the units were amalgamated to form *I. (Einsatz) Gruppe*/JG 1 under Maj. Zober. When British forces captured Leck on 8th May some fifty He 162's stood in orderly rows on the airfield.

With mass production in full swing, *Erprobungskommando 162* at Rechlin took over routine trials with the aircraft, leaving Heinkels free for more radical design work. The modifications tested by *Erprobungskommando 162* included the fitting of a

When British troops captured Leck in May 1945, they found fifty He 162's of JG 1 neatly lined up on the airfield.
(Photo: Franz Selinger)





Well-known view of an unpainted He 162 strafed by Allied fighters on an airfield near Vienna. (Photo: Imp. War Mus.)

larger battery, radio and starter motor, a new radio aerial, and even a steerable nose-wheel.

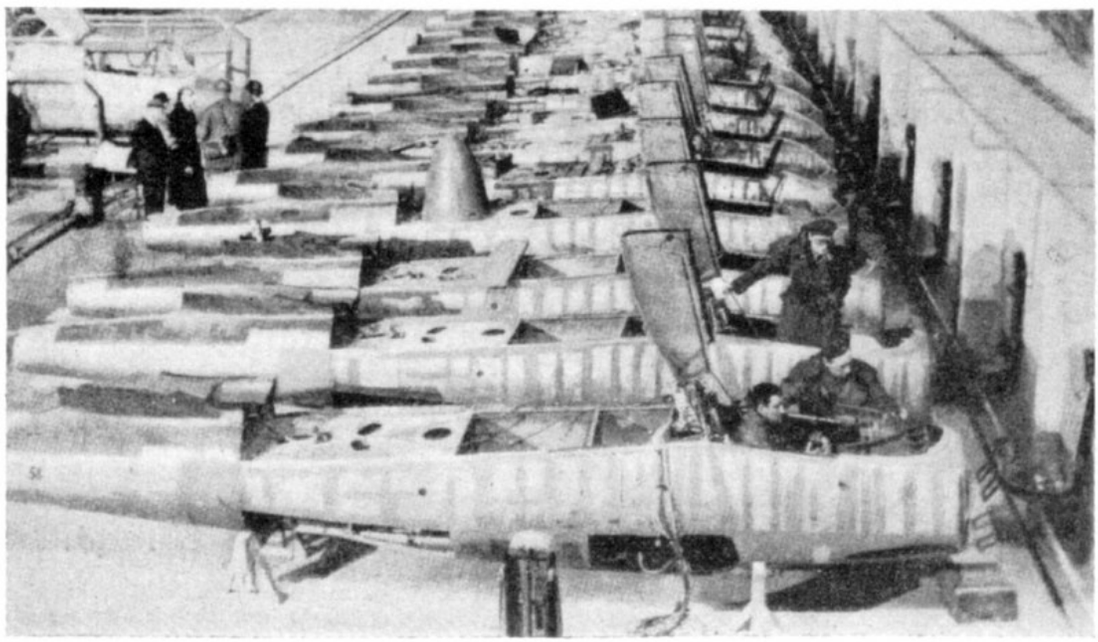
VARIATIONS ON A THEME

One of the first modifications of the basic airframe was the He 162A-9. This was essentially an He 162A-2 fitted with a butterfly tail assembly similar to that tested by the He 280 V7 and V8. Most developments utilised different types of power plants. In November 1944, the R.L.M. issued a specification calling for a lightweight fighter utilising the Argus As 014 impulse duct engine as its prime mover. This was an extremely primitive form of engine which had been previously used to power the V-1 flying bomb and the Me 328 fighter-bomber.

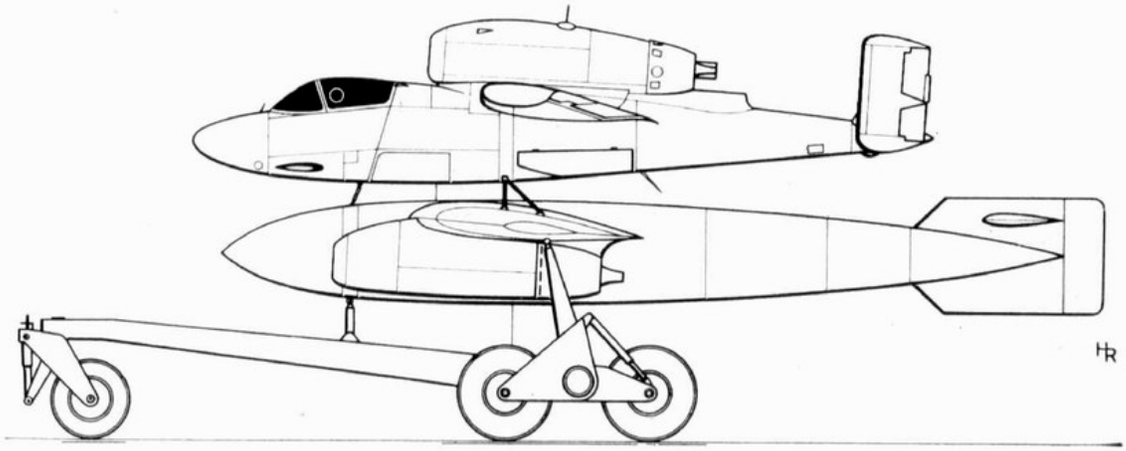
Three firms competed for the specification: Blohm und Voss with their P.213; Junkers with their EF 126 Elli; and Heinkel with a conversion of the Salamander, the He 162B-1. In the latter, the B.M.W. 003 was simply replaced by two 740 lbs.s.t. As 014 engines. Later another variant, the He 162B-2, was projected with a single As 044 of 1,100 lbs. thrust with its tail pipe extending just beyond the tail assembly. With both projects the performance was inferior to the B.M.W. 003-powered model, although the As 044-engined variant had improved endurance. The main difficulty with the impulse duct powered fighter were the problems associated with launching. This had to be done either by catapult or rocket, and the cost of this, combined with the severe oscillations of the engine, led to its abandonment.

The Junkers Jumo 004 D and E turbojets were also tested by the Heinkel 162. Both delivered 2,200 lbs. thrust, although this could be boosted to 2,530 lbs. for short periods of 30 seconds. Perhaps one of the most interesting power units tested by the He 162 was the B.M.W. 003 R composite rocket and turbojet. This engine was developed under the direction of Dr. Bruckmann and an SS officer named Zborowski at Munich. The B.M.W. 003 R was basically a standard 003 A engine with a drive taken through a modified gearbox to supply power for the 200 h.p. rocket fuel pumps. The rocket exhausted close to the main jet efflux and could be switched on and off at will. The fuel comprised a mixture of nitrous oxide and a chemical known as "Tonka". The engine, which was first tested in the Me 262C-2b, delivered almost 5,000 lbs. thrust, 1,740 lbs. from the jet, 2,750 lbs. from the rocket.

The definitive development of the He 162 was to utilise the 2,860 lbs. thrust Heinkel Hirth HeS 011 composite axial and diagonal flow turbojet. Two basic designs were proposed, the He 162C with swept forward wings and a butterfly tail and the He 162D with swept back wings and a butterfly tail. Neither aircraft was completed before the end of the war, although a half-completed prototype, designated He 162A-14, was captured by the Allies at the end of the war. This had provision for the fitting of either swept forward or swept back wings, and it was anticipated that mass production of the HeS 011



U.S. 9th Army forces captured this partially-completed assembly line of Volksjäger *at Egeln. Like many German aircraft facilities of the period, the assembly plant was entirely under ground.*
(Photo via the author)



Projects-1: The proposed "Mistel 5", an He 162 mounted on the pilotless Arado E 377A craft. (By permission Hans Redeman)

variant would commence early in 1946.

One of the most interesting projects involving the Heinkel 162 was the *Mistel* 5. The *Mistel* consisted of one aircraft mounted on top of another, the whole being flown to its target when the lower half, filled with explosive, was jettisoned. The Mistel 1, 2 and 3 were all combinations of the Bf 109 or Fw 190 and Ju 88, whilst the Mistel 4 was to have comprised a Me 262 mounted on a Ju 287.

The Mistel 5 specification called for the Heinkel 162 as the upper component with an entirely new lower half. Two manufacturers produced designs; Arado the E-377 A and Junkers the Ju 268. The former was a simple shoulder-wing monoplane powered by two B.M.W. 003 turbojets. The construction, although simple, was highly aerodynamic in form. The nose section was used to house the warhead, the rest of the fuselage being used for fuel for the missile and the mother craft on its outward trip.

(*Continued on Page 10*)

SPECIFICATION

Heinkel He 162A-2

Dimensions: Span 23 ft. 7¾ ins. Length 29 ft. 8½ ins. Wing area 120 sq. ft.

Powerplant: One 1,760 lbs.s.t. B.M.W. 003 E-1 or E-2 axial flow turbojet.

Armament: Two 20 mm. MG 151/20 cannons with 120 rounds per gun.

Weights: Normal loaded 5,480 lbs. Maximum loaded 5,940 lbs.

Performance: Maximum speed 490 m.p.h. at sea level; 522 m.p.h. at 19,700 ft. and 485 m.p.h. at 36,000 ft. Initial climb rate 4,230 ft./min. Climb to 19,700 ft. was 6·6 mins.; to 36,000 ft. was 20 mins. Normal range 5,480 lbs. Endurance at full throttle: 20 mins. at sea level; 57 mins. at 36,000 ft.

Heinkel He 162B-1 (Estimated)

Powerplants: Two 737 lbs.s.t. Argus As 014 impulse duct engines mounted above the fuselage.

Weights: Empty 4,796 lbs. Normal loaded 7,260 lbs.

Performance: Maximum speed 505 m.p.h. at sea level; 485 m.p.h. at 9,850 ft. and 443 m.p.h. at 21,500 ft. Normal range 168 miles at sea level; 217 miles at 9,850 ft. and 255 miles at 21,500 ft. Endurance at full throttle: 20 mins. at sea level and 29 mins. at 9,850 ft. Service ceiling 26,100 ft.

Heinkel He 162B-2 (Estimated)

Powerplant: One 1,100 lbs.s.t. Argus As 044 impulse duct engine mounted above the fuselage.

Weights: Empty 4,444 lbs. Normal loaded 6,380 lbs.

Performance: Maximum speed 443 m.p.h. at sea level; 410 m.p.h. at 9,850 ft. and 376 m.p.h. at 21,500 ft. Normal range 155 miles at sea level; 198 miles at 9,850 ft. and 236 miles at 21,500 ft. Endurance at full throttle: 21 mins. at sea level and 32 mins. at 9,850 ft. Service ceiling 23,500 ft.

Heinkel He 162 with B.M.W. 003 R engine (Estimated)

Powerplant: Combination of one 1,740 lbs.s.t. B.M.W.003 axial flow turbojet and one 2,750 lbs.s.t. B.M.W.718 liquid fuel rocket engine.

Weights: Normal loaded 8,540 lbs.

Performance: Maximum speed 628 m.p.h. at sea level and 600 m.p.h. at 33,000 ft. Climb from standing start to 300 ft. was 24 secs.; to 16,500 ft. was 117 secs.; and to 33,000 ft. was 167 secs. Initial climb rate was 16,750 ft./min. Full thrust range including climb to 16,500 ft. was 200 miles. Full thrust duration was 24·9 mins. at 16,500 ft. and 43·8 mins. at 33,000 ft.

HEINKEL He 162 SALAMANDER PRODUCTION TABLE

Prototypes and Pre-Production

Designation		*Werke Nr.*	*Remarks (N.B. Abbreviated dates to English convention: day-month-year.)*
HE 162 V1		200001	First flown on 6/12/44, crashed on 10/12/44, killing test pilot Flugkapitän Peter.
He 162 V2		200002	First flown on 22/12/44, similar to V1.
He 162 V3		200003	First flown on 16/1/45, fitted with enlarged vertical tail surfaces and anhedral wing tips.
He 162 V4		200004	First flown on 16/1/45, similar to V3.
He 162 V5	A-01	200005	Never flown, test airframe.
He 162 V6	A-02	200006	First flown on 23/1/45.
He 162 V7	A-03	200007	Unarmed, forerunner of A-1 production series.
He 162 V8	A-04	200008	First aircraft fitted with two MG 151/20 cannon.
He 162 V9	A-05	200009	Similar to V8.
He 162 V10	A-06	200010	Similar to V8.
He 162 V11	A-07	220017	Tested with Jumo 004 B turbojet.
He 162 V12	A-08	220018	Similar to V11.
He 162 V13			Not allocated.
He 162 V14	A-09		Never flown, test airframe.
He 162 V15	A-010		As V14.
He 162 V16	A-011	220019	Prototype for He 162 S two seat trainer.
He 162 V17	A-012	220020	Similar to V16.
He 162 V18	A-013	220001	First flown on 24/1/45, endurance trials.
He 162 V19	A-014	220002	First flown on 28/1/45.
He 162 V20	A-015	220003	First flown on 10/2/45, fitted with experimental undercarriage.
He 162 V21	A-016	220004	Used for MG 151/20 firing trials.
He 162 V22	A-017	220005	First flew on 25/2/45, modified wing root to prevent tip-stalling.
He 162 V23	A-018	220006	First flew on 27/2/45, similar to V22.
He 162 V24	A-019	220007	
He 162 V25	A-020	220008	First flew on 17/2/45, experimental increase in fuselage length.
He 162 V26	A-021	220009	Similar to V25.
He 162 V27	A-022	220010	Similar to V25.
He 162 V28	A-023	220011	Never flown, reserve aircraft.
He 162 V29	A-024	220012	Flown on 19/2/45, armament test aircraft.
He 162 V30	A-025	220013	First flown on 24/2/45, experimental gun sight.
He 162 V31	A-026	220014	
He 162 V32	A-027	220020	
He 162 V33	A-028	220021	
He 162 V34	A-029	220022	
He 162 V35	A-030	220023	
He 162 V36	A-031	220024	

Production Series

He 162A-1	Initial production series, abandoned in favour of A-2.
He 162A-2	Major production series, differed little from A-1.
He 162A-3	Originally proposed with MK 108 cannon.
He 162A-9	Modification of the A-2 with a butterfly tail assembly.
He 162A-14	New wing, inner half with dihedral, outer half with anhedral, butterfly tail assembly, HeS 011 turbojet.
He 162B-1	Basic airframe of A-2 fitted with two Argus As 014 impulse duct engines.
He 162B-2	Similar to B-1, but powered by one As 044 impulse duct engine.
He 162C-1	Fitted with 15° swept forward wing, butterfly tail and HeS 011 turbojet.
He 162D-1	Fitted with swept back wing, butterfly tail and HeS 011 turbojet.
He 162S	Tandem two seat trainer variant for which V16 and V17 acted as prototypes. (There was also a single seat glider training version of the He 162).

The Arado E-377 A (the E-377 was an unpowered version to be carried by the Ar 234 C) was built of wood, the fuel tanks being sealed with special gaskets. The wings had no control surfaces and the rudders operated only after separation from the parent craft. Two fuel lines were incorporated in the missile to feed the parent craft, and for take-off, a special 20-ton Rheinmetall-Borsig trolley was to be used. The E-377 A was hoisted on to this trolley, and the He 162 hoisted on top, connection being effected by explosive bolts. Neither the E-377 A or the generally similar Ju 268 were built.

After the close of the war in Europe, ten, possibly eleven He 162's were captured and brought to the British Isles for evaluation Each was allotted an Air Ministry number as shown in table on back page.

The majority of He 162's were captured by British forces, although one is on show at the *Musée de l'Air* in Paris and three were captured and evaluated in the United States. These were:—

T-2-489, *W.Nr. 120077:* Taken initially to Freeman Field, Indiana, but transferred to Edwards Air Force base in 1946 for flight evaluation. Now on show at Ontario International Airport, California.

T-2-494, *W.Nr. 120017:* Taken to Wright-Patterson Air Force base where it was dissected for structural analysis.

T-2-504, *W.Nr. 120222:* Flown initially at Freeman Field, later to Wright-Patterson Air Force base. Now crated at the Smithsonian Institute in Washington.

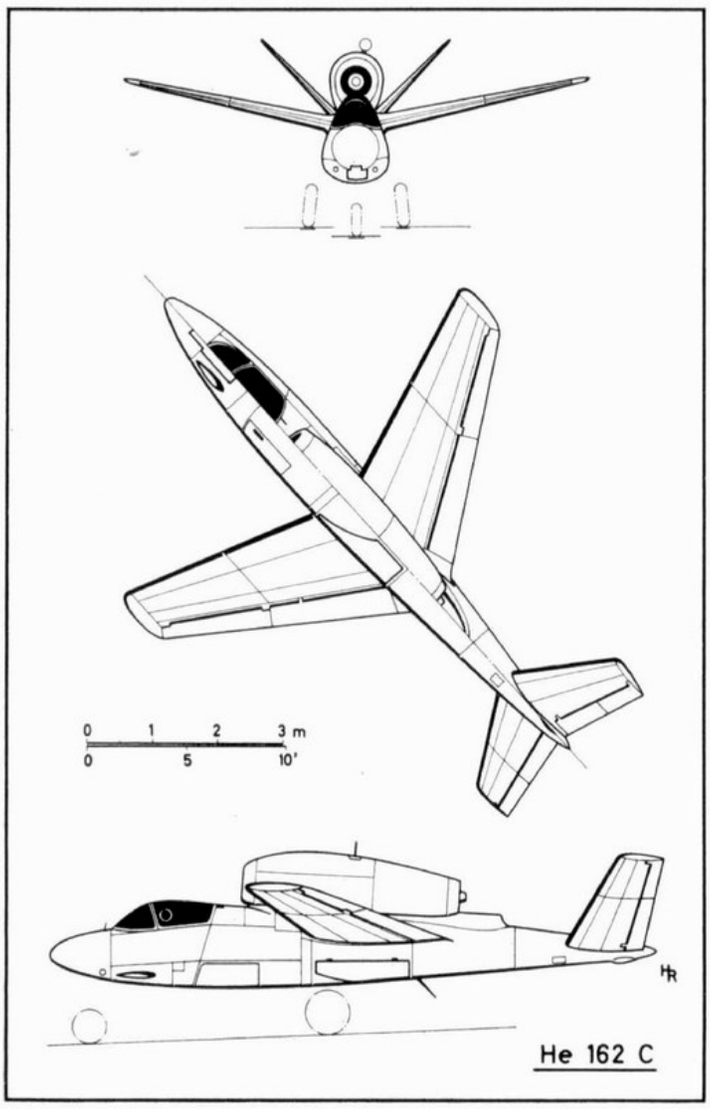
THE SALAMANDER DESCRIBED

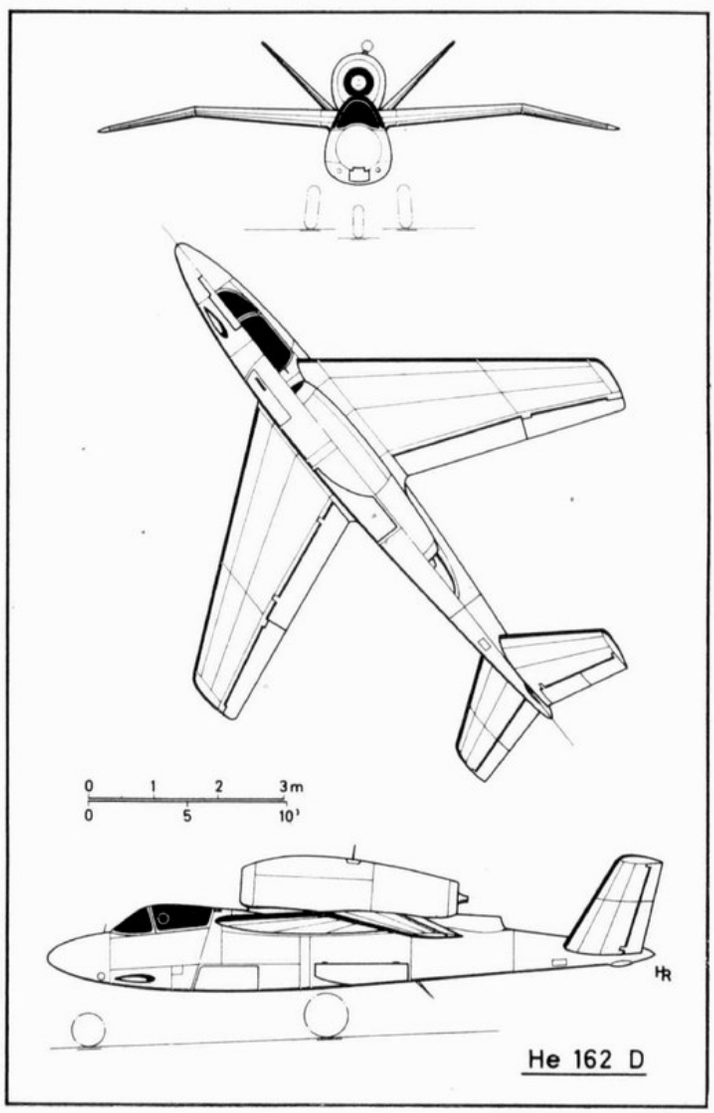
The fuselage was a semi-monocoque structure, 0·040 thick dural being used for the skin, the bulkheads and stringers being constructed of 0·034 material. The tailplane comprised a metal frame with 0.091 dural sheet. Wood was used for the construction of the nose cap, radio compartment and undercarriage doors. The cockpit was as standard for German fighters, except for the use of wood in the instrument panel and the minimum of instruments fitted.

Pilot's visibility was very good, a jettisonable canopy being provided for use in connection with the compressed air ejector seat. The brakes, which were operated by toe pressure on the rudder pedals were operative on the mainwheels only, being adjusted by individual controls.

The one piece wing was constructed of beech plywood throughout with the exception of the wingtips which were made of aluminium alloy. The tips were bent down at an angle of 55° to eliminate the tendancy of the aircraft to side slip. The space between the main and auxiliary spars was used to accommodate the 74 gallon fuel tank which was integrally moulded and sealed with a special cement to prevent leakage. The spars were of "T" section, the auxiliary spars carrying two fittings for the ailerons and landing

(Left) *Projects-2: The He 162C with swept-forward wings and butterfly tail.* (Right) *Projects-3: The He 162D with back-swept wings and butterfly tail, to be powered (like the He 162C) by a Heinkel Hirth He S 011 turbojet.* (By permission Hans Redeman)





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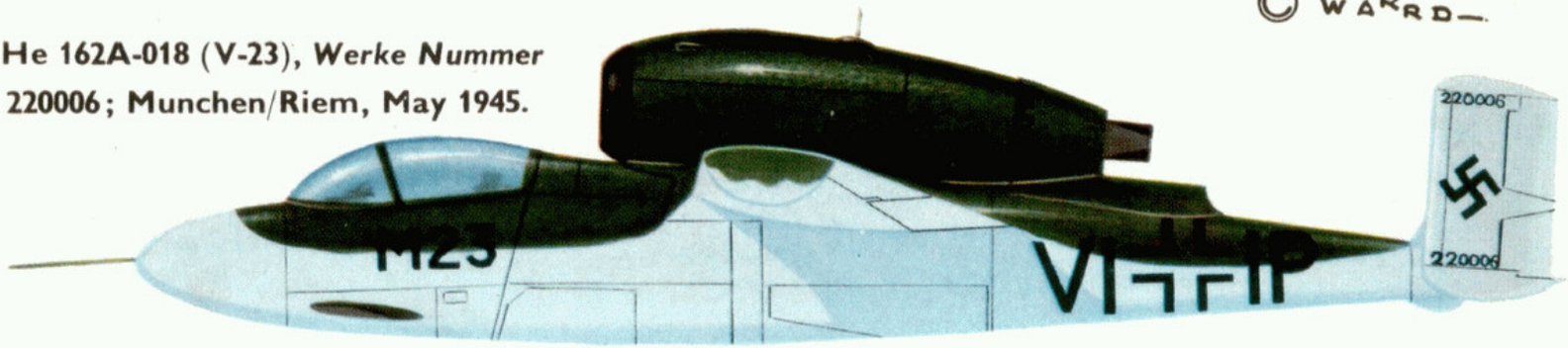
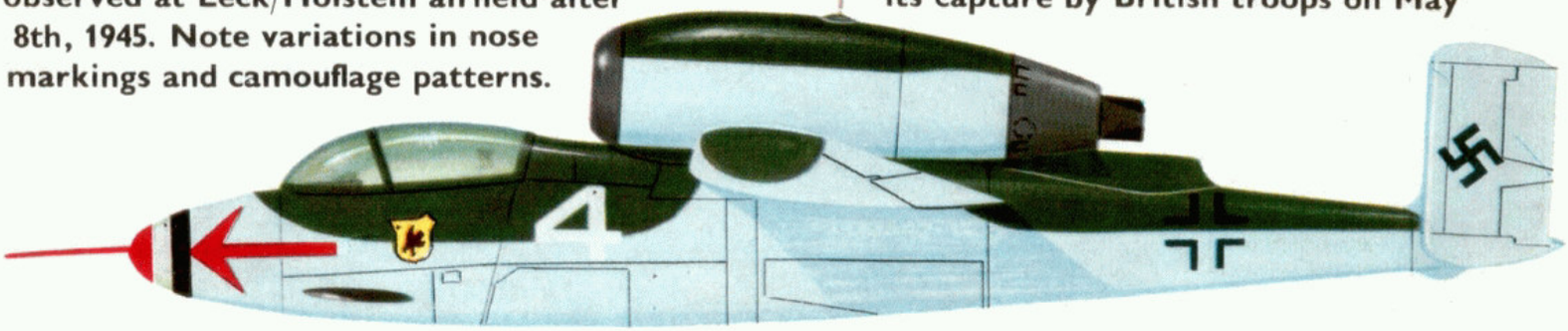
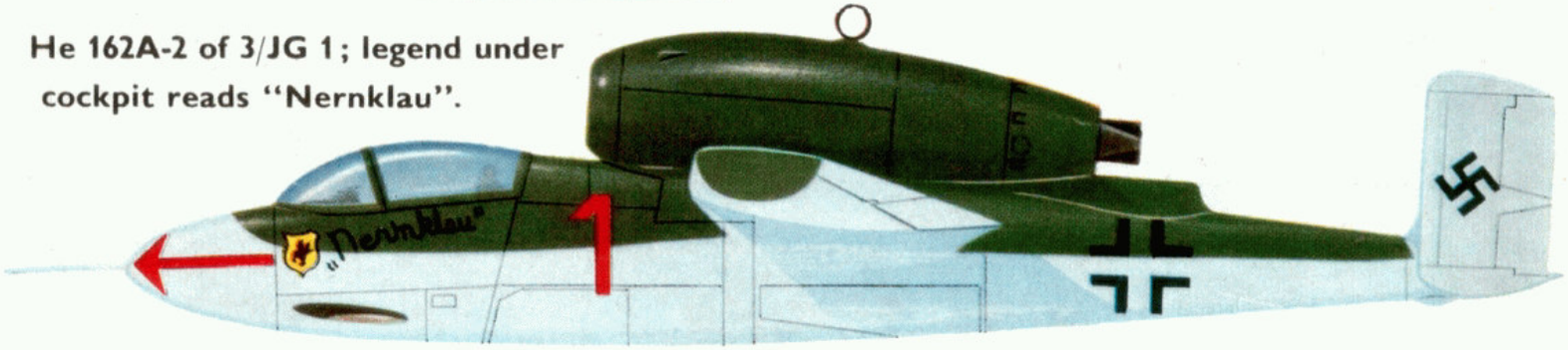
He 162A-018 (V-23), *Werke Nummer* 220006; Munchen/Riem, May 1945.



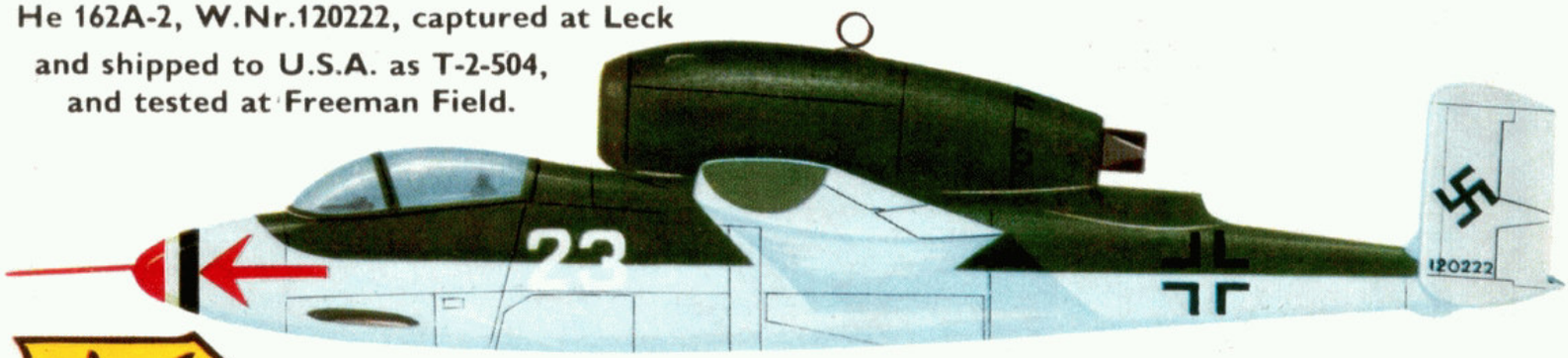
He 162A-2, W.Nr.120231, of 3/JG 1; this and the other aircraft illustrated on this page were observed at Leck/Holstein airfield after its capture by British troops on May 8th, 1945. Note variations in nose markings and camouflage patterns.



He 162A-2 of 3/JG 1; legend under cockpit reads "Nernklau".

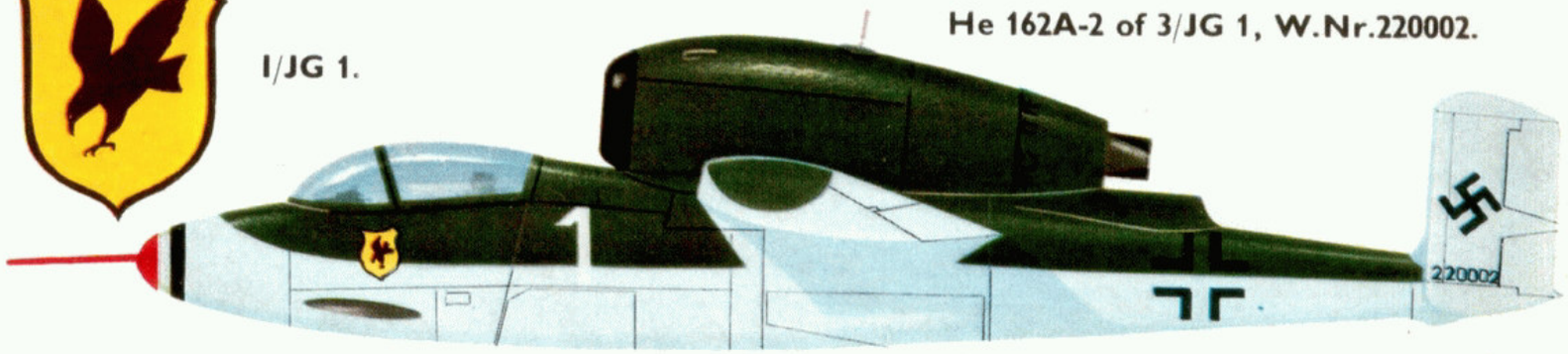


He 162A-2, W.Nr.120222, captured at Leck and shipped to U.S.A. as T-2-504, and tested at Freeman Field.

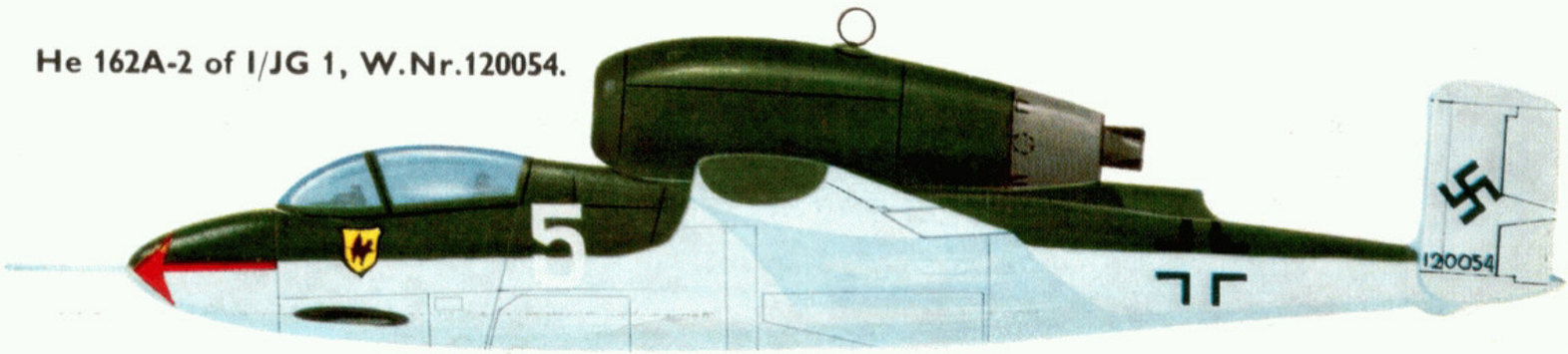


I/JG 1.

He 162A-2 of 3/JG 1, W.Nr.220002.



He 162A-2 of I/JG 1, W.Nr.120054.



Heinkel He 162A-2, W.Nr. *120072, Air Ministry No. 61; the machine made four flights in England, totalling 50 minutes, but crashed at the Farnborough captured aircraft display on 9th November 1945, killing the pilot.* (Photo: Imp. War Mus. MH4880)

flaps. The skin was of 4 mm. beech ply except for the portion between the main and auxiliary spars which was increased to 5 mm. The wing was attached to the fuselage by four vertical bolts, three other bolts connecting the upper surface to the power unit.

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	Werke Nr.	*Engine Nr.*	*Remarks*
AM 58	120021 or 120221	TL 395919	R.A.F. serial VH530. Ex-II./JG 1 machine captured at Leck, canibalised.
AM 59	120076	TL 395845	R.A.F. serial VH523, captured at Leck, flown in evaluation tests for a total of 1½ hours, transferred to the Canadian War Museum at Ottawa, refurbished in July 1966.
AM 60	120074	TL 394681	Nothing known.
AM 61	120072	TL 395537	Four sorties flown totalling 50 minutes. Crashed during the display of captured enemy aircraft at Farnborough, 9th Nov. 1945. The tail unit broke away and the machine crashed into a barracks at Aldershot, killing the pilot, Flt. Lt. R. A. Marks.
AM 62	120086	—	Shown at the Hyde Park Battle of Britain display in September 1945. The machine is now being refurbished in Canada although its engine and cowling are missing.
AM 63	120095	TL 394308	Captured at Leck.
AM 64	120097	TL 395905	R.A.F. serial VN158, captured at Leck, exhibited at Farnborough in November 1945.
AM 65	120227	TL 395914	R.A.F. serial VH513, captured at Leck, used for evaluation, flew 26 sorties totalling 11 hours 45 mins. Stored at Leconfield for some time before being transferred to Colerne. Seat and instrument panel missing, numbered "27".
AM 66	120091	TL 395306	Captured at Leck.
AM 67	120098	TL 395843	Captured at Leck.
AM 68	—	—	Possibly allocated to an He 162, no details.

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